

SPIE Conference on Astronomical Telescopes and Instrumentation
Section: AS12

Title: Submillimeter Astronomy Investigation of Line Spectra (SAILS) –
A Balloon-Borne Instrument

Abstract:

The Submillimeter Astronomy Investigation of Line Spectra (SAILS) is a balloon-borne experiment under study for a 100 day ultra-long duration balloon mission. The experiment would survey the galactic plane with 1 arc minute angular resolution and 1 km/sec velocity resolution in the important submillimeter lines of CII, NII, and OI. These tracers provide the structure and energetics of a major component of the ionized photon dominated regions of the interstellar medium. This instrument's survey of large regions of the galactic plane complements both FIRST and SOFIA which will excel at pointed observations with higher angular resolution and broader spectral coverage. Details of the instrument design and observing strategy are presented.